

# NASA TECH BRIEF

*Ames Research Center*

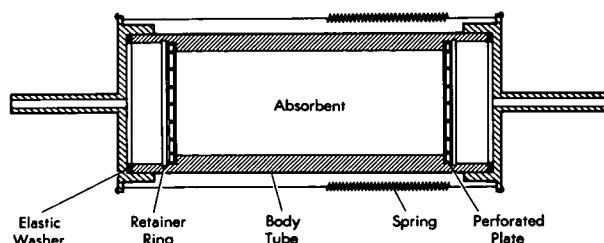


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## Quick-Change Absorption Column

### **The problem:**

To design an absorption column that permits rapid replacement of packing; commercially available absorption columns must be detached, emptied, refilled, and reconnected.



### **The solution:**

A demountable absorption column that has end caps held in place by springs; prefilled packs of absorbent can be exchanged quickly.

### **How it's done:**

Both ends of a metal or plastic body tube of the size which can hold an adequate amount of absorbent are machined as shown in the diagram to provide a seat for a perforated plate and a groove for its spring retainer ring. The perforated plate and the retainer ring preferably are fabricated from stainless steel in order to be compatible with a wide variety of absorbent materials; 16 to 20 mesh stainless steel screens are adequate for small-diameter body tubes, but

thick, perforated plates must be used to support the heavier absorbent beds involved in large-diameter units.

The end caps also are fabricated of corrosion resistant metal or plastic with tubulations of a size suitable for connection to flexible tubing or hose. The caps are equipped with flat elastic washers that are pressed against the ends of a body tube by the two springs shown in the diagram; by proper adjustment of spring tension, the elastic washers can be made to provide leak-free junctions at low pressures.

The unit is readily disassembled, and a new pre-filled tube can be inserted within a few seconds.

### **Note:**

Requests for further information may be directed to:

Technology Utilization Officer  
Ames Research Center  
Moffett Field, California 94035  
Reference: TSP 75-10142

### **Patent status:**

NASA has decided not to apply for a patent.

Source: G. N. McEwen, Jr.  
National Research Council  
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(ARC-10952)

Category 03